



State of Utah

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**Department of
Environmental Quality**

Amanda Smith
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

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AUG 08 2013

**CERTIFIED MAIL
(Return Receipt Requested)**

Mr. Kenneth May, General Manager
Sufco Mine
597 South SR24
Salina, Utah 84654

Document Date 8/13/2013



DWQ-2013-005473 JS

Dear Mr. May:

Subject: Compliance Schedule TDS Treatment or Mitigation System, UPDES Permit No. UT0022918, Sufco Mine, Canyon Fuel Company

This letter is in response to your two letters dated April 29, 2013, one regarding TDS (salt) concentration requirements, which would primarily effect Outfall 002 at your facility and another addressing total TDS loading from the combination of all discharge points.

Letter regarding TDS Concentration: The concentration limitation of the permit is not an issue at Outfall 003, which has a limitation of 1216 mg/L. The Company has consistently met this requirement. Outfall 001 has not discharged in many years and it is anticipated that if this happens, it would also meet the concentration limit of 1216 mg/L. Outfall 002 has a concentration limit of 1289 mg/L, which is in abeyance until a final solution is implemented. The proposed limit of 1289 mg/L at Outfall 002 can usually be met in the summer months and those months when it is unnecessary to apply road salts or similar products. The mine has made several improvements to resolve this issue at Outfall 002, as listed in your April 29th letter under the paragraph labeled Historic and Current Treatment. These have helped the quality of the discharge water at 002, but the 1289 mg/L concentration has not been consistently achieved. Several other treatment options included in your letter such as reverse osmosis, nano-filtration, and development of a site specific TMDL criteria was not feasible for various reasons such as cost, brine disposal, insufficient land area and climate.

Based on data from the Company over the past several years, it appears that the majority of the TDS exceedances at Outfall 002 occurred in winter months, and was likely due to road de-icing treatment and runoff from coal storage piles. The mine is proposing that, by reducing contributions from these sources, there will be further reductions in the TDS concentrations of the effluent. Your letter proposes a treatment plan, with an associated compliance schedule as follows:

1. Investigate the cost and feasibility of removal and/or relocation of the road treatment products from the mine site.
2. Work with the trucking companies and county road department to develop a plan and methods to reduce the amount of salt laden snow and ice carried onto the mine site by coal trucks.

Sufco is proposing a fifteen month compliance schedule for investigating these items, completion of engineering work, permitting (through Division of Oil, Gas and Mining and/or DWQ) improvements to surface facilities, and construction/implementation of treatment systems prior to discharging from Outfall 002.

The plan and timeframe to address TDS concentrations as proposed is hereby approved. The final effluent limit of 1289 mg/l TDS for Outfall 002 will be effective on December 1, 2014.

Second letter regarding TDS Loading: The UPDES permit UT0022918 requires that a final plan for meeting a one ton per day limit, as a sum from all discharge points, be submitted on May 1, 2013. Your April 29, 2013 letter (received on May 1, 2013) presents Sufco's plan to meet the one ton per day loading limit, which is to participate in the salinity offset program. The specific tons of salt credits needed, is not certain at this time. Sufco has requested a compliance schedule to more precisely assess the in-mine water usage, anticipated groundwater flow from mined out sections, and anticipated inflows of groundwater into future workings. The proposed compliance schedule includes 18 months for investigation, engineering, and implementation.

Sufco is hereby approved to proceed with an 18 month compliance schedule to complete a study that will determine the specific tons of salt credit needed and provide the financial support to undertake a project that will provide that amount of salt savings. By the end of this calendar year the Sufco permit will be formally modified to include this compliance schedule to implement a salinity offset program. The final compliance date for implementation of the offset program selected will be 18 months from the date of this letter. The permit will be modified to include language similar to that contained in the Skyline and Dugout permits.

Thank you for your cooperation in these matters. If you have any questions or concerns about this response please contact Mike Herkimer at 801-536-4386 or mherkimer@utah.gov.

Sincerely,

John J. Whitehead
Acting Director

JJW:MDH:mc

cc: Stephanie Gieck, EPA Region VIII
Phillip Bondurant, Central Utah Public Health Department
John Chartier, District Engineer



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John K.

Sufco Mine
Kenneth E. May
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Fax (435) 268-1499

April 29, 2013

Walter L. Baker, Director
Division of Water Quality
Utah Department of Environmental Quality
PO Box 144870
Salt Lake City, UT 84114-4870



Re: Compliance Schedule Salt Loading - UPDES Permit No. UT0022918, Sufco Mine,
Canyon Fuel Company, LLC

Dear Mr. Baker:

Canyon Fuel Company, LLC. Sufco Mine (Sufco) is submitting to you a compliance schedule for the development and implementation of the process to achieve the desired loading for waters discharged by the mine into the Colorado River Drainage system.

The original compliance schedule was requested in the permit issued on October 1, 2011, as was the request for a loading study. Based on the changes in the locations where groundwater is intercepted within the mine and the overall growth of the mine workings, the original study submitted to the DWQ in the 1990's no longer applies. Therefore the mine has determined the best method for complying with the one ton per day loading limit designed in the permit is to participate in the salinity offset program and/or significantly reduce the volume of discharged groundwater. The mine has determined that the majority of the salt loading total will come from Outfall 003.

Past discharge volumes from the Sufco Mine are not necessarily representative of the future mine groundwater discharge volumes. Currently it is anticipated discharge water volumes will be significantly reduced in the future. However, to make certain the mine does not over or under estimate the number of tons required to be purchased, time will be required to evaluate the anticipated range of future discharge flow rates. The mine has commissioned a study to determine what the in-mine water usage will be in future years, the anticipated groundwater flow from mined-out areas of the mine and the anticipated inflows of groundwater into future workings.

Jeff Studenka was contacted to gain knowledge of the process for participation in a salinity offset program. A meeting will be set up with the appropriate DWQ staff to discuss a plan for Sufco to participate in the program once the mine has determined a reasonable number of salt ton credits, if any, need to be acquired. Following the meeting a more detailed plan may be required and as the process continues there is the potential for the compliance schedule to be revised.

Compliance Schedule

The Compliance Schedule contains a conservative schedule for completions of the process:

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Investigation																		
Engineering																		
Implementation																		

Sufco Mine

Based on Canyon Fuels, LLC's past experience in purchasing salt credit tons, the necessary investigation into the mine's future groundwater make and the time necessary to complete the construction of water handling structures underground, Sufco is requesting 18 months to complete this project.

If you have questions concerning the information presented in this document, please contact either Vicky Miller (435) 286-4481 or Amanda Richard (435) 286-4489.

CANYON FUEL COMPANY
SUFco Mine



Kenneth E. May
General Manager

Cc: Mike Herkimer, UDWQ
John Kennington, UDWQ
Chris Hansen, AWBG
John Byars, Sufco
Vicky Miller, Sufco



Scanned to John K.
DWQ-2013-003189

Mike H.

Sufco Mine
Kenneth E. May
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April 29, 2013

Walter L. Baker, Director
Division of Water Quality
Utah Department of Environmental Quality
PO Box 144870
Salt Lake City, UT 84114-4870



Re: Compliance Schedule TDS Treatment or Mitigation System - UPDES Permit
No. UT0022918, Sufco Mine, Canyon Fuel Company, LLC

Dear Mr. Baker:

Canyon Fuel Company, LLC. Sufco Mine (Sufco) is submitting to you a revised Compliance Schedule for the treatment of TDS in the mine's discharge water. The original compliance schedule and a loading study were requested in the permit issued on October 1, 2011.

Sufco has analyzed the quality of the receiving stream and the mine's discharge water quality and has determined the mine has the potential to be compliant with the permit designated TDS discharge concentration limits of 1289 mg/l at Outfall 002 and 1216 mg/l at Outfalls 001 and 003. However, some modifications will need to be made to the surface facilities to assure consistent compliance with the TDS limit at Outfall 002. The following text will outline the proposed facility modification and subsequent schedule to complete these modifications.

Historic and Current Treatment

Runoff water from the mine site has historically been treated through a system of sediment structures and ponds. Initially runoff was treated through a single sediment pond; in 2011 the mine installed a second sediment pond, which has resulted in a significant improvement to discharge water quality.

In addition to the construction of the second pond, the mine has relocated and partially enclosed the winter road treatment materials. The mine has also recently constructed partially enclosed raw coal storage facilities as a protection from precipitation and runoff.

Based on the monitoring data for the past year, the aforementioned improvement projects appear to have succeeded in lowering the TDS in our discharge water.

Proposed Treatment

Sufco explored additional options for further treatment and methods for preventing non-compliant water from being discharged from the mine site. These treatments included the following:

Sufco Mine

The waters could be filtered using either a reverse osmosis or Nano-filtration system to remove a portion of the TDS constituents. The cost associated with the systems, their operation and the disposal of the brine solution were all cost prohibitive at this time.

The option to increase the TDS loading limit on the receiving stream by evaluating the downstream water usage was also investigated. The downstream water rights listed usage is for agricultural, livestock watering, culinary usage and drinking water. Additionally, the TMDL designated the receiving stream as being impaired for macroinvertebrates. These reasons made a proposal to change the TMDL time prohibitive and potentially unlikely to be successful.

As with the previous methods, a biological treatment for the removal of TDS was evaluated, however the treatment proved to be cost prohibitive, there was insufficient space to construct the treatment near the mine and climatic conditions were not conducive to the treatment.

Treatment Plan

The review of discharge water quality data collected over the past several years revealed the majority of the TDS exceedences in the discharge water from Outfall 002 occurred in winter months and were likely due to the de-icing treatment being placed on the roads and runoff from the coal storage piles. The mine therefore proposes to further reduce the TDS of the discharge water by reducing that source. An investigation will be made of the cost and feasibility of removal and/or relocation of the road treatment products from the mine site. Since road salt traced onto the mine site also appears to be a significant contributor to the winter time increase in the TDS load to Outfall 002 discharges, Sufco will work with the trucking companies and county road department to develop a plan and methods to reduce the amount of salt-laden snow and ice carried onto the mine site by the coal trucks.

Compliance Schedule

The Compliance Schedule contains a schedule for investigating the possibility of the treatment systems, completions of the engineering work, permitting the improvements to the surface facilities and the implementation of the treatment for the water prior to discharging from Outfall 002.

A conservative schedule for a treatment system based on a conventional engineering approach is outlined below.

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Investigation															
Engineering															
Permitting															
Construction															

As presented in the above timeline chart, Sufco would complete the TDS reduction program within a 15-month period following approval of the schedule by UDEQ.

We would like to request that prior to the writing of the next permit a meeting be scheduled between Sufco Mine and the DWQ staff to review the enforcement options should the TDS limits occasional exceed the designated concentration limit at the Outfalls.

If you have questions concerning the information presented in this document, please contact either Vicky Miller (435) 286-4481 or Amanda Richard (435) 286-4489.

CANYON FUEL COMPANY
SUFco Mine



Kenneth E. May
General Manager

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